

| Ref # | Hits   | Search Query                        | DBs   | Default Operator | Plurals | Time Stamp       |
|-------|--------|-------------------------------------|---|------------------|---------|------------------|
| L1    | 6      | LEE-PHAL-JIN.IN.                    | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:42 |
| L2    | 245912 | PCB (PRINTED ADJ CIRCUIT ADJ BOARD) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:42 |
| L3    | 427708 | BRIDGE                              | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:43 |
| L4    | 813947 | RECESS                              | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:43 |
| L5    | 204263 | APPLIANCE                           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:43 |
| L6    | 76933  | DUMMY                               | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:43 |
| L7    | 1      | 2 SAME 3 SAME 4 SAME 6              | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:43 |
| L8    | 102    | 2 SAME 3 SAME 4                     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:43 |
| L9    | 1      | 5 SAME 8                            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:43 |
| L10   | 3      | 5 AND 8                             | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2005/08/31 05:44 |

|     |       |                     |   |    |    |                  |
|-----|-------|---------------------|---|----|----|------------------|
| L11 | 1492  | 2 SAME 5            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:44 |
| L12 | 3     | 11 SAME 6           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:49 |
| L13 | 37089 | 349\$.CCLS.         | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:49 |
| L14 | 6     | 11 AND 13           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:50 |
| L15 | 65609 | WASHING ADJ MACHINE | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:50 |
| L16 | 18    | 13 AND 15           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:50 |
| L17 | 2     | 2 AND 16            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:51 |
| L18 | 1     | 8 AND 15            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:52 |
| L19 | 646   | 2 SAME 6            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:52 |
| L20 | 1     | 19 AND 15           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:53 |

|     |        |                 |   |    |    |                  |
|-----|--------|-----------------|---|----|----|------------------|
| L21 | 553    | 2 AND 15        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:53 |
| L22 | 3      | 21 AND 6        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:53 |
| L23 | 13     | 21 AND 3 AND 4  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:58 |
| L24 | 1216   | 349/58.CCLS.    | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:58 |
| L25 | 262804 | 5 15            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 05:58 |
| L26 | 34     | 24 AND 25       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 06:01 |
| L27 | 31493  | 68\$.CCLS.      | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 06:01 |
| L28 | 64     | 27 AND 2 AND 25 | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/08/31 06:01 |



# STIC Search Report

## EIC 2800

STIC Database Tracking Number: 164442

TO: T. Chowdhury  
Location: JEF-4A49  
Art Unit : 2871  
Wednesday, August 31, 2005  
Case Serial Number: 10/721,361

From: Jeff Harrison  
Location: EIC 2800  
JEF-4B68  
Phone: 22511

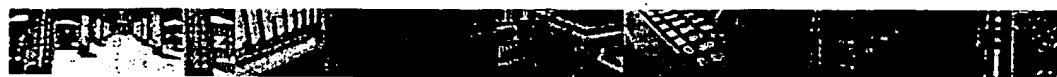
### Search Notes

Attached are edited results from patent literature in CAS/STN and in EAST foreign patent text/image databases, and from WWW searching.

I recommend that you browse all the attached results.

If you would like more searching on this case, or if you have questions or comments, please let me know.

Respectfully,  
Jeff Harrison



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\* indicates mandatory information.

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(e.g., Susan.Smith@uspto.gov)

\*Employee No.:

\*Art Unit/Org.:

\*Office Location:

\*Phone No.:

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\*Case serial number:

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Enter your Search Topic Information below:

Dummy In PCB  
Bridges / Recess

### Special Instructions and Other Comments:

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| Ref # | Hits   | Search Query  | DBs             | Default Operator | Plurals | Time Stamp       |
|-------|--------|---|-----------------|------------------|---------|------------------|
| L1    | 352183 | lcd or lcds or ((display\$4 or lc or crystal\$5) near3 panel\$2) or (liquid near2 crystal) or fpd or fpds or amlcd or amlcds or (flat adj1 panel) | JPO;<br>DERWENT | OR               | OFF     | 2005/08/31 11:11 |
| L2    | 43236  | (pcb\$1 or board\$1 or pc or pcs or ics or ic or card or cards or (integrated adj1 circuit\$3)) and L1  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:12 |
| L3    | 3612   | L2 and (recesses or holes or break\$6 or perforat\$7 or bridg%7)  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:13 |
| L4    | 1832   | L2 and (openings)   | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:13 |
| L5    | 91     | L2 and stamp\$7   | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:13 |
| L6    | 35     | (L3 or L4 or L5) and boss\$7  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:14 |
| L7    | 1309   | (L3 or L4 or L5) and (dummy or plate or washer or screw or spacer or insulator or ((sheet or rectang\$7 or square) near3 metal\$5))               | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:15 |
| L8    | 253    | L7 and (guid\$7 or align\$7)  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:16 |
| L9    | 18     | L7 and (interfer\$5 or interrupt\$7)  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:16 |
| L10   | 96     | L8 and (recesses or edges or boss\$7 or stamp\$8)   | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:17 |
| L11   | 25     | (L5 or L6 or L9 or L10) and (assembly or layout or (lay adj1 out))  | JPO;<br>DERWENT | OR               | OFF     | 2005/08/31 11:18 |
| L12   | 5      | (L5 or L6 or L9 or L10) and appliance\$1  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:18 |
| L13   | 13     | (L5 or L6 or L9 or L10) and (home or consumer\$3)   | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:26 |
| L14   | 39     | L11 or L12 or l13   | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:18 |
| L15   | 213    | (L5 or L6 or L9 or L10)   | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:26 |
| L16   | 1      | L15 and recesses and perforat\$7  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:26 |
| L17   | 51     | L15 and recesses  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:32 |
| L18   | 14     | L15 and (slot\$7 or slit\$7)  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:53 |
| L19   | 2      | L15 and punch\$7  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:54 |
| L20   | 113    | L2 and punch\$7   | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:54 |
| L21   | 1      | L20 and recesses  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:54 |
| L22   | 0      | L20 and boss\$5   | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:54 |
| L23   | 35     | L20 and (lcd or pcb)  | JPO;<br>DERWENT | OR               | ON      | 2005/08/31 11:55 |

----- 8/31/05 10/721,361

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L2 1 KR2002-75454/PRN  
1 KR2002-75454/AP  
1 (KR2002-75454/PRN OR KR2002-75454/AP)

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L3 1 KR2002-75454/PRN

=> d max

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L4 2 (KR2002-75454/PRN OR KR2002-75454/AP)

=> sel ic mc epc

L5 SEL L4 1- IC MC EPC : 8 TERMS

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LWPI IS A STATIC LEARNING FILE  
>>> PATENT DRAWINGS AVAILABLE FOR DISPLAY <<<

L6 28 (LCD OR LC OR LIQUID CRYSTAL OR FLAT PANEL OR FPD OR ACTIVE  
MATRIX OR AMLCD OR DISPLAY###(3A) PANEL) AND (PRINTED CIRCUIT OR  
PC BOARD OR PCB OR CIRCUIT BOARD)

L7 59 (GUID### OR DUMMY OR SPACER OR ALIGN#### OR CUTOUT OR CUT###  
OUT OR INSULATOR) (6A) (SQUARE OR RECTANG#####)

L8 417 (GUID### OR DUMMY OR SPACER OR ALIGN#### OR CUTOUT OR CUT###  
OUT OR INSULATOR) (9A) (BRIDG#### OR PERFORAT#### OR HOLES OR  
OPENINGS OR BREAKING OR BREAK##### OR STAMP#####)

L9 536 (GUID### OR DUMMY OR SPACER OR ALIGN#### OR CUTOUT OR CUT###  
OUT OR INSULATOR) (9A) (RECESS##### OR SLOT##### OR SLIT#####  
OR NARROW#### OR LONG###)

L10 365 (BRIDG#### OR PERFORAT#### OR HOLES OR OPENINGS OR BREAKING OR  
BREAK##### OR STAMP#####) (9A) (RECESS##### OR SLOT##### OR  
SLIT##### OR NARROW#### OR LONG###)

L11 88 (BRIDG#### OR PERFORAT#### OR HOLES OR OPENINGS OR BREAKING OR  
BREAK##### OR STAMP#####) (12A) (SQUARE OR RECTANG#####)

----- 8/31/05 10/721,361

L12 341 (BRIDG#### OR PERFORAT#### OR HOLES OR OPENINGS OR BREAKING OR  
BREAK##### OR STAMP#####) (12A) (BOSS#### OR WASHER OR SCREW####  
OR BOLT### OR NUT)

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1 FILES SEARCHED...  
L13 11786 L7

1 FILES SEARCHED...  
L14 75313 L8

1 FILES SEARCHED...  
L15 102463 L9

1 FILES SEARCHED...  
L16 69640 L10

L17 19672 L11

L18 73508 L12

=> s prevent####(9a)interrupt#####  
L19 11974 PREVENT####(9A) INTERRUPT#####

=>

=> s boss####(6a)(attach##### or connect##### or coupl#####)

1 FILES SEARCHED...  
L20 7732 BOSS####(6A) (ATTACH##### OR CONNECT##### OR COUPL#####)

=> s (prevent#### or eliminat#####) (9a) (interrupt##### or interfer#####)  
L21 51353 (PREVENT#### OR ELIMINAT#####) (9A) (INTERRUPT##### OR INTERFER###  
###)

=> s (align#### or guid#### or precis##### or accura#####) (6a) (board or locat##### or pcb or position####)  
1 FILES SEARCHED...  
L22 304607 (ALIGN#### OR GUID#### OR PRECIS##### OR ACCURA#####) (6A) (BOARD  
OR LOCAT##### OR PCB OR POSITION#####)

=> s (perimet#### or periphery or peripherally or edge or outer or outside or external##) (4a) (holes or  
openings or recesses or orifices or bridges or break#### or cutouts or cut outs or chads)

1 FILES SEARCHED...  
L23 60318 (PERIMET#### OR PERIPHERY OR PERIPHERALLY OR EDGE OR OUTER OR  
OUTSIDE OR EXTERNAL##) (4A) (HOLES OR OPENINGS OR RECESSES OR  
ORIFICES OR BRIDGES OR BREAK#### OR CUTOUTS OR CUT OUTS OR CHADS  
)

=> s (recess#### or conform##### or follow####(3a) (shap#### or profil####) or cutout or cut  
out) (6a) (structur#### or assembly or board or pcb)

1 FILES SEARCHED...  
L24 28299 (RECESS#### OR CONFORM##### OR FOLLOW####(3A) (SHAP#### OR PROFIL##  
##) OR CUTOUT OR CUT OUT) (6A) (STRUCTUR#### OR ASSEMBLY OR BOARD  
OR PCB)

L26 41850 (FIX##### OR STABLE OR STABIL##### OR INTEGRITY) AND (L25 OR



----- 8/31/05 10/721,361

PCB OR APPLIANCE OR LCD)

L25 101642 S L5

L27 139591 (ALIGN#### OR GUID#### OR PRECIS#### OR ACCURA#### OR BOARD  
OR LOCAT#### OR PCB OR POSITION####) AND (L25 OR PCB OR APPLIAN  
CE OR LCD)

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```
=> s l13 and l14 and l15
L28      159 L13 AND L14 AND L15

=> s l13 and l14 and l16
L29      110 L13 AND L14 AND L16

=> s l13 and l14 and l17
L30      689 L13 AND L14 AND L17

=> s l13 and l14 and l18
L31      101 L13 AND L14 AND L18

=> s l13 and l15 and l18
L32      31 L13 AND L15 AND L18

=> s l13 and l16 and l18
L33      25 L13 AND L16 AND L18

=> s l13 and l17 and l18
L34      95 L13 AND L17 AND L18

=> s l13 and l15 and l16
L35      127 L13 AND L15 AND L16

=> s l13 and l15 and l17
L36      122 L13 AND L15 AND L17

=> s l14 and l15 and l17
L37      180 L14 AND L15 AND L17

=> s l14 and l15 and l18
L38      696 L14 AND L15 AND L18

=> s l14 and l16 and l18
L39      709 L14 AND L16 AND L18

=> s l14 and l16 and l17
L40      212 L14 AND L16 AND L17

=> s l14 and l18 and l17
L41      168 L14 AND L18 AND L17

=> s l15 and l16 and l17
L42      177 L15 AND L16 AND L17

=> s l15 and l16 and l18
L43      671 L15 AND L16 AND L18

=> s l15 and l17 and l18
L44      38 L15 AND L17 AND L18

=> s l16 and l17 and l18
L45      243 L16 AND L17 AND L18

=> s L28-45
L46      2403 (L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR
              L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR L42 OR L43 OR
              L44 OR L45)

=> s L25 and L46
L47      11 L25 AND L46

=> s L19 and L46
L48      0 L19 AND L46

=> s L20 and L46
L49      8 L20 AND L46
```

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=> s L21 and L46  
L50 3 L21 AND L46

=> s L22 and L46  
L51 351 L22 AND L46

=> s L23 and L46  
L52 188 L23 AND L46

=> s L24 and L46  
L53 40 L24 AND L46

=> s L26 and L46  
L54 28 L26 AND L46

=> s L27 and L46  
L55 47 L27 AND L46

=> s L51-55 and boss#####  
L56 19 (L51 OR L52 OR L53 OR L54 OR L55) AND BOSS#####

=> s L51-55 and recess#####  
L57 165 (L51 OR L52 OR L53 OR L54 OR L55) AND RECESS#####

=> s L51-55 and (cutout or cut##### or brok##### or break#####)  
L58 121 (L51 OR L52 OR L53 OR L54 OR L55) AND (CUTOUT OR CUT#####  
OR BROK##### OR BREAK#####)

=> s L57-58 and bridg####(8a)(holes or openings or set or squar#### or rectang##### or edge)  
1 FILES SEARCHED...  
L59 7 (L57 OR L58) AND BRIDG####(8A)(HOLES OR OPENINGS OR SET OR  
SQUAR#### OR RECTANG##### OR EDGE)

=> s L57-58 and assembly  
L60 63 (L57 OR L58) AND ASSEMBLY

=> s L57-58 and layout  
L61 2 (L57 OR L58) AND LAYOUT

=> s L57-58 and lay out  
L62 0 (L57 OR L58) AND LAY OUT

=> s L57-58 and insulator  
L63 6 (L57 OR L58) AND INSULATOR

=> s L57-58 and guide  
L64 111 (L57 OR L58) AND GUIDE

=> s L57-58 and align#####  
L65 108 (L57 OR L58) AND ALIGN#####

=> s L60 and L64  
L66 29 L60 AND L64

=> s L60 and L65  
L67 28 L60 AND L65

=> s L64 and L65  
L68 33 L64 AND L65

L69 9702 L6

=> s (L69 or L25) and stamp#####  
L70 173 (L69 OR L25) AND STAMP#####

=> s (L69 or L25) and boss#####  
L71 265 (L69 OR L25) AND BOSS#####

=> s (L69 or L25) and recesses  
L72 570 (L69 OR L25) AND RECESSES

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=> s (L69 and L25)  
L73 2064 (L69 AND L25)

=> s L70 and L71  
L74 3 L70 AND L71

=> s L70 and L72  
L75 7 L70 AND L72

=> s L71 and L72  
L76 7 L71 AND L72

=> s L31-34 or 144 or 147-50 or L53-56 or L59-63 or L66-68  
L77 319 (L31 OR L32 OR L33 OR L34) OR L44 OR (L47 OR L48 OR L49  
OR L50) OR (L53 OR L54 OR L55 OR L56) OR (L59 OR L60 OR  
L61 OR L62 OR L63) OR (L66 OR L67 OR L68)

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=> s L77 and L25  
L78 11 L77 AND L25

=> s L77 and L69  
L79 0 L77 AND L69

=> s L74-76 or L78  
L80 26 (L74 OR L75 OR L76) OR L78

=> s L73 and L28-45  
L81 0 L73 AND (L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR  
L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR L41 OR L42 OR  
L43 OR L44 OR L45)

=> s L73 and L47-72  
L82 2064 L73 AND (L47 OR L48 OR L49 OR L50 OR L51 OR L52 OR L53  
OR L54 OR L55 OR L56 OR L57 OR L58 OR L59 OR L60 OR L61  
OR L62 OR L63 OR L64 OR L65 OR L66 OR L67 OR L68 OR L69  
OR L70 OR L71 OR L72)

=> s L73 and L47-68  
L83 0 L73 AND (L47 OR L48 OR L49 OR L50 OR L51 OR L52 OR L53  
OR L54 OR L55 OR L56 OR L57 OR L58 OR L59 OR L60 OR L61  
OR L62 OR L63 OR L64 OR L65 OR L66 OR L67 OR L68)

=> s L73 and L70-72  
L84 26 L73 AND (L70 OR L71 OR L72)

=> s L84 not L80  
L85 25 L84 NOT L80

=> s L69 and (dummy or spacer or washer or insulator);file stng  
L86 411 L69 AND (DUMMY OR SPACER OR WASHER OR INSULATOR)

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**[PDF] ER VICE AN UAL**

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Align the battery door hinges with the **recesses** in the bottom of the housing.

... NP88 Flex 900MHz uses **PCB** Antenna, add matching circuit VC004, C4 ... etc, ...

[www.uni.com.tw/NP88\\_Flex\\_Service%20Manual.pdf](http://www.uni.com.tw/NP88_Flex_Service%20Manual.pdf) - [Similar pages](#)

**[PDF] front cover a/w**

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... will focus on the topic: The **PCB** - a new system ... laser cutting, EDM, electroforming,

precision **stamping**, forming and ... The new facility will produce **LCD** TVs, PDP ...

[www.trafalgarpublications.com/ attachments/Global\\_4\\_4\\_EU.pdf](http://www.trafalgarpublications.com/attachments/Global_4_4_EU.pdf) - Supplemental Result - [Similar pages](#)

**[PDF] Lesman Catalog: Controllers**

File Format: PDF/Adobe Acrobat - [View as HTML](#)

Page 1. 1 CONTROLLERS AND PROGRAMMERS Analytical Instruments and Systems Pressure

Transmitters Recorders & Data Acquisition Temperature Sensors & Transmitters ...

[lesman.com/downloads/s01sp\\_controllers.pdf](http://lesman.com/downloads/s01sp_controllers.pdf) - Supplemental Result - [Similar pages](#)

**[PDF] Equipment**

File Format: PDF/Adobe Acrobat - [View as HTML](#)

Specimen holder for **PCB**-preparation for 6 Specimens Ø 1" (25.4 mm) ... **Stamping**

device for **stamping** out coupons with 1" (25.4 mm) length. ...

[www.buehler.com/productinfo/05Euro\\_Equipment.pdf](http://www.buehler.com/productinfo/05Euro_Equipment.pdf) - [Similar pages](#)

**[PDF] Derwent**

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... for connecting flexible wiring board or flexible flat circuit with panelboard eg

for use in vehicle, has base section with slot for receiving **PCB** and two ...

[https://www.thomsonscientific.jp/ products/itp/pdf/disc/itdecon02.pdf](https://www.thomsonscientific.jp/products/itp/pdf/disc/itdecon02.pdf) - Supplemental Result - [Similar pages](#)

**[PDF] RESPIRA**

File Format: PDF/Adobe Acrobat - [View as HTML](#)

Page 1. Page 2. WELCOME TO HAZMASTERS Canadian owned and operated, our branches

from coast to coast offer 24-hour emergency service ...

[hazmasters.com/Catalog/booklet.pdf](http://hazmasters.com/Catalog/booklet.pdf) - Supplemental Result - [Similar pages](#)

AAA Abe abs Abu ace ACM act ADC add ado ads AFC aft age ago aha ...

kWh lab Lab lac lad lag lam LAN lap law lax lay LBJ lbs lbw LCD lea led lee ...

owe owl own PAC pad pal Pam pan pap par pas pat paw pay PBX PCB pcm PCs Pde ...

[www.af0.net/~dan/wordlist.dat](http://www.af0.net/~dan/wordlist.dat) - 513k - [Cached](#) - [Similar pages](#)

[catalog/INDEX 0100644 0000000 0000003 00000002157 07015010470 ...](#)

... RECENTER RECENTLY RECEPTOR RECESSED **RECESSES** RECHARGE RECHARTS ...

STAMMELS STAMMERS STAMPEDE STAMPERS **STAMPING** STANCHED STANCHER STANCHES ...

[hpux.connect.org.uk/ftp/hpux/Games/Networking/ xcountdown-1.08/xcountdown-1.08-sd-11.00.depot.gz](http://hpux.connect.org.uk/ftp/hpux/Games/Networking/xcountdown-1.08/xcountdown-1.08-sd-11.00.depot.gz) - 1644k - [Cached](#) - [Similar pages](#)

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<http://www.google.com/search?q=lcd+pcb+stamping&num=10&hl=en&rls=GGLD%2CGGLD%3A2004-...> 8/31/05



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assembly slit pcb lcd holes OR openings OR p Search

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PreferencesWeb Results 1 - 10 of about 553 for assembly slit pcb lcd holes OR openings OR perforation OR chads OR bridge OR bridges OR bridging OR dummy. (0.**[PDF] Serial LCD 4**File Format: PDF/Adobe Acrobat - [View as HTML](#)Decide if you want to detach the switch **PCB assembly** from the display **PCB assembly**.... the **holes**. **Slit** the heat shrink tubing from the leads of the ...[www.rhoent.com/slhobman.pdf](http://www.rhoent.com/slhobman.pdf) - [Similar pages](#)**[PDF] CP1 Assembly Procedure**File Format: PDF/Adobe Acrobat - [View as HTML](#)micro-switches until they fit easily into the **holes** into the Main **PCB** for SW3 and SW4. ... 8.2.15 Install the RF **PCB** to SIDE-08/BASE-09 **assembly**. ...[polysat.calpoly.edu/documents\\_cp1/systems/cp1\\_assy.pdf](http://polysat.calpoly.edu/documents_cp1/systems/cp1_assy.pdf) - [Similar pages](#)**THE SUPERTEF 96**With regards to the **assembly**, the careful design and conception of the printed circuit boards made ... However the thimbles are too big for the **PCB holes**. ...[home.nordnet.fr/~fthobois/anglais/supertef.htm](http://home.nordnet.fr/~fthobois/anglais/supertef.htm) - 46k - [Cached](#) - [Similar pages](#)**[PDF] LCD Controller Driver Data Book**File Format: PDF/Adobe Acrobat - [View as HTML](#)Soldering Conditions: Solder TCPs on the **PCB** under the following conditions. ...in such a way that the bending angle of each **slit** does not exceed 90°. ...[www.crownhill.co.uk/LCDdata.pdf](http://www.crownhill.co.uk/LCDdata.pdf) - [Similar pages](#)**Orange County Electronics Expo 2002 Website**We also provide display integration of **LCD** Panels and CRT Monitors into Rack ...LPKF Laser & Electronics is the leading manufacturer of Rapid **PCB** in house ...[www.socalee.com/showreg/WWWroot/pub\\_exhibitorlist.asp](http://www.socalee.com/showreg/WWWroot/pub_exhibitorlist.asp) - 73k - [Cached](#) - [Similar pages](#)**Assembly Codes**The Canonical List of **Assembly** Codes. Date: Wed, 26 Feb 92 10:25:35 CST ...Paper Bag Please PBST Play Batch mode Star Trek **PCB** Pause for Coffee Break PCD ...[www.csl.sri.com/users/mwfong/Humor/assembly.html](http://www.csl.sri.com/users/mwfong/Humor/assembly.html) - 31k - [Cached](#) - [Similar pages](#)**[PDF] Drake Heterodyne Oscillator Crystal Eliminator Construction Notes**File Format: PDF/Adobe Acrobat - [View as HTML](#)Although it is generally best to install the ICs as late in the **assembly** as possible,... Verify that the mounting **holes** for this box are correctly ...[www.n0ss.net/drake\\_het\\_osc\\_xtal\\_elim\\_notes.pdf](http://www.n0ss.net/drake_het_osc_xtal_elim_notes.pdf) - [Similar pages](#)**For Sale ads for used, rebuilt & remanufactured: semiconductor ...**Incomplete: without arm, weights, or blade arbor **assembly**. ... 300 blaze grating,25 micron **slit**, w/micrometer Jarrett \* Oven, 16"D, 10"H, 8"W JBA LS-60-12 ...[www.tech-assist.com/salesemi.htm](http://www.tech-assist.com/salesemi.htm) - 513k - [Cached](#) - [Similar pages](#)**[PDF] SERVICE MANUAL**File Format: PDF/Adobe Acrobat - [View as HTML](#)if you removes without soldering the MD picking up **assembly** might destroy ...Remove the **slit** washer and the worm gear from the ...[www.minidisc.org/manuals/jvc/service/jvc\\_xmpx50wt\\_service.pdf](http://www.minidisc.org/manuals/jvc/service/jvc_xmpx50wt_service.pdf) - [Similar pages](#)**Lock Manufacturers -B2B Manufacturer Directory Taiwan,China Lock ...**... stair tread, trench cover, drainage pit cover, **slit** drainage cover. ...(4) wafer connectors- center wafer **assembly**, center dual row **PCB** wafer. ...[www.manufacturers.com.tw/security/Lock-Manufacturer.html](http://www.manufacturers.com.tw/security/Lock-Manufacturer.html) - 121k - [Cached](#) - [Similar pages](#)

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#### PCB Assemblies - B2B Manufacturers Directory Taiwan,China PCB ...

Full listing of **PCB Assembly** manufacturer & **PCB Assemblies** Suppliers online.We have a broad range of **pcb assembly** and services which can be sourced by this ...

www.manufacturers.com.tw/ electronics/PCB-Assemblies.html - 48k - Aug 29, 2005 - [Cached](#) - [Similar pages](#)

#### Cable Assemblies -B2B Manufacturers Directory Taiwan,China ...

Directory of Cable **Assembly** manufacturers and suppliers with factories located in

... **PCB** mounting **holes**, material & plating, Cable **Assembly** instructions. ...

www.manufacturers.com.tw/ electronics/cable-assembly.html - 97k - [Cached](#) - [Similar pages](#)

[ More results from www.manufacturers.com.tw ]

#### PDF Section 7: Installing the PCB in the Enclosure

File Format: PDF/Adobe Acrobat - [View as HTML](#)

from the Config menus and just follo the directions given inn the LCD. ...

Once the **PCB assembly** is in place, use the four remaining ...

www.amqrp.org/kits/micro908/ manual%20v1.0/Section%207%20(22-24).pdf - [Similar pages](#)

#### PIC-EL Kit Assembly & Test Manual - Sectio 14: In Case of Trouble

To fit a 20-pin ZIF in the 18-hole slot left by the "removed" IC socket, ...

No DDS daughter **PCB**. After power-up, no display on **LCD**, LED1 never turns on, ...

www.amqrp.org/elmer160/board/manual/manual14.html - 22k - [Cached](#) - [Similar pages](#)

#### SBS OR COMPUTERS

3U board mounted on slot N (right) **bridging** to VME via flat cables to rear ...

PMC slot on a 4TE CompactPCI carrier board, multilayer **PCB** for best EMC/EMI. ...

www.pcisource.com/pciprod/companypci/sbs-orpciinfo.html - 13k - [Cached](#) - [Similar pages](#)

#### Miscellaneous Notebook Accessories

P000291210, COVER ASSEMBLY, 149.00, 149.00. P000291220, CARDBUS **SLOT**, 65.00, 65.00

... P000305240, COLOR LCD MODULE, 423.00, 423.00. P000305360, **PCB** FFISY6 ...

www.micsol.com/parts/pp7220.htm - 74k - [Cached](#) - [Similar pages](#)

#### Miscellaneous Notebook Accessories

P000288430, **PCB** FATNM3, 103.00, 103.00. P000288480, COLOR LCD MODULE, 676.00 ...

P000294730, **PCB** FATNH2, 125.00, 125.00. P000294740, HDD LOWER ASSEMBLY ...

www.micsol.com/parts/pt8100.htm - 131k - [Cached](#) - [Similar pages](#)

#### LookSmart's Furl - The lucovicianus Archive

LEDs gallore, **LCD** (so you know what PICmicro/Robosapien is up to), text-to-speech

... These are VCC, GND, IR-OUT (to **PCB**) and IRIN (from receiver in head). ...

www.furl.net/members/lucovicianus - 38k - [Cached](#) - [Similar pages](#)

#### PDF Kit Contents

File Format: PDF/Adobe Acrobat

Insert the sensor -- place the row of five leads in the **holes** and then gently

rock it back ... It mounts with the single tab into a **slot** near the front of ...

www.seattlerobotics.org/WorkshopRobot/ level3/DistanceBoardManual.pdf - [Similar pages](#)

#### Circuit board standoffs web site

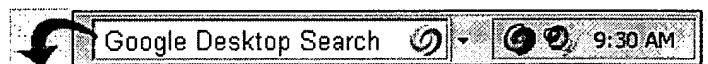
Slide the top tab up into the top **slot** until the screw **holes** in bracket line up with

... one Instruction Manual (LED or **LCD** keypad) • one hardware pack ...

www.unlikelyheroes.ca/circuit\_board\_standoffs.html - [Similar pages](#)

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assembly slot pcb lcd holes OR ope Search





FYI, the Derwent record for 10/721,361

L80 ANSWER 4 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN  
AN 2004-497548 [47] WPIX  
DNN N2004-392824  
TI **Liquid crystal** display assembly for home appliance,  
has **printed circuit board** loaded inside  
guide, and set of **recesses** formed along edges of insulator,  
**printed circuit board**, coating layer and  
**liquid crystal display panel**.  
DC P81 U14 V04 X27  
IN LEE, P J  
PA (GLDS) LG ELECTRONICS INC; (LEEP-I) LEE P J  
CYC 2  
PI US 2004105045 A1 20040603 (200447)\* 8 G02F001-1333 <--  
KR 2004047299 A 20040605 (200465) H05K007-00 <--  
ADT US 2004105045 A1 US 2003-721361 20031126; KR 2004047299 A KR 2002-75454  
20021129  
PRAI KR 2002-75454 20021129  
IC ICM **G02F001-1333; H05K007-00**  
AB US2004105045 A UPAB: 20040723  
NOVELTY - The assembly has an insulator provided rectangular at one side  
of a home appliance with a guide along an edge of the insulator. A  
**printed circuit board** (6) is loaded inside the  
guide. A coating layer is applied on the board. A **liquid**  
**crystal display panel** is provided over the  
coating layer. A set of **recesses** (630) are formed along edges of  
the insulator, the board, the layer and the panel.  
USE - Used for a home appliance (claimed) e.g. washing machine.  
ADVANTAGE - The **LCD** assembly improves the structure of the  
recess of the **printed circuit board** to  
prevent interruption between the **printed circuit**  
**board** and the **bosses** coupled with the **LCD**  
panel, thereby fixing the **printed circuit**  
**board** in accurate locations.  
DESCRIPTION OF DRAWING(S) - The drawing shows a layout of a recess on  
a **printed circuit board**.  
**Printed circuit board 6**  
Dummy 600  
Bridge 610  
Break line 620  
Recess 630  
Dwg. 4a/5  
FS EPI GMPI  
FA AB; GI  
MC EPI: **U14-K01A4B; V04-Q02A; V04-Q05;**  
**X27-D01A**

L85 ANSWER 3 OF 25 WPIX COPYRIGHT THE THOMSON CORP on STN  
 AN 2004-686498 [67] WPIX  
 TI **Liquid Crystal** Display assembly for household electric  
 appliances.  
 DC U14 V04 X27  
 IN CHO, I H; HONG, G G; KOO, B G; OH, M J  
 PA (GLDS) LG ELECTRONICS INC  
 CYC 1  
 PI KR 2004047300 A 20040605 (200467)\* 1 D06F039-00  
 ADT KR 2004047300 A KR 2002-75455 20021129  
 PRAI KR 2002-75455 20021129  
 IC ICM D06F039-00  
 AB KR2004047300 A UPAB: 20041019  
 NOVELTY - An **LCD (Liquid Crystal Display)**  
 assembly of household electric appliances is provided to prevent an  
**LCD** from bending or transforming by removing stress from the  
**LCD** through push is given on an upper surface of the **LCD**  
 .  
 DETAILED DESCRIPTION - An **LCD (Liquid**  
**Crystal Display)** assembly of household electric appliances  
 includes an insulator(5), a **printed circuit**  
**board**, coating liquid and an **LCD**. The insulator as a  
 square plate has a coating guide downward a rim of a lower surface. A  
**boss** (520) and a support rib (510) for combining the **LCD**  
 is protruded from an upper surface of the insulator. The **printed**  
**circuit board** is installed inside the coating guide on  
 the lower surface of the insulator. Coating liquid applies to cover an  
 upper surface of the **printed circuit board**.  
 The **LCD** is combined and fixed to the **boss** for  
 combining the **LCD**. Therein, the **LCD** is not given with  
 stress through pushing force is applied to an upper surface of the  
**LCD**.  
 Dwg.1/10  
 FS EPI  
 FA AB; GI  
 MC EPI: U14-K01A4A; **U14-K01A4B**; V04-S09; V04-T02; X27-D01

Same  
Assignee

Same  
priority  
Date

Different  
Priority  
Number

L85 ANSWER 13 OF 25 WPIX COPYRIGHT THE THOMSON CORP on STN  
 AN 1990-037592 [06] WPIX  
 DNN N1990-028927  
 TI Control device for domestic appliance with **PCB** and selection  
 switch - coupled to control knob via mechanism designed to limit torque  
 transmitted and avoid axial forces.  
 AW DISHWASHER WASHING MACHINE.  
 DC P28 T06 V03 X27  
 IN SCHELKNEC, V; SCHELLKNECHT, V  
 PA (MIEL) MIELE & CIE; (MIEL) MIELE & CIE GMBH & CO  
 CYC 1  
 PI DE 3823813 A 19900201 (199006)\* 5  
 DE 3823813 C2 19961205 (199702) 5 H02B015-00  
 ADT DE 3823813 A DE 1988-3823813 19880714; DE 3823813 C2 DE 1988-3823813  
 19880714  
 PRAI DE 1988-3823813 19880714  
 IC A47L015-42; G05G001-08; H01H003-02; H02B015-00  
 ICM H02B015-00  
 ICS A47L015-42; G05G001-08; H01H003-02  
 AB DE 3823813 A UPAB: 19930928  
 The arrangement is located on an operating and **display**  
**panel** formed by a frame carrying a **circuit board**  
 held by a support. The **circuit board** has a selection  
 switch (1) connected to the appliance's microcomputer and via a coupling  
 mechanism to a control knob.  
 The coupling mechanism has one element (3) on the spindle (2) of the  
 switch and another (10) on the knob and also has elements for  
 automatically adjusting, fixing and centering the knob during assembly.  
 One coupling element (10) is a disc (14) with centering and fixing  
 elements (17,18). The other coupling element (3) is a spring disc (20)  
 with **recesses** for the said centering and fixing elements.  
 ADVANTAGE - Compensates for mfg. tolerances.  
 1/4  
 FS EPI GMPI  
 FA AB; GI  
 MC EPI: T06-C01; V03-B09; V03-C02B; **X27-D01A**; X27-D01B

L80 ANSWER 22 OF 26 JAPIO (C) JPO on STN  
AN 2001-133781 JAPIO  
TI LIQUID CRYSTAL DISPLAY DEVICE  
IN IWAMOTO KENICHI; NOZAWA HISAO; OTA YOKO  
PA HITACHI LTD  
HITACHI ELECTRONIC DEVICES CO LTD  
PI JP 2001133781 A 20010518 Heisei  
AI JP 1999-317309 (JP11317309 Heisei) 19991108  
PRAI JP 1999-317309 19991108  
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2001  
IC ICM G02F001-13357  
ICS F21V008-00; **G02F001-1333**; G09F009-00  
ICI F21Y103:00  
AB PROBLEM TO BE SOLVED: To obtain a display quality excellent in shock resistance by firmly keeping the engagement between a mold case and a light **guide** plate.  
SOLUTION: The device is equipped with a frame mold case MCA which houses a back light BL disposed on the back face of a liquid crystal panel PNL and with a metal frame SHD which forms the frame to expose the effective display region of the liquid crystal panel and which has side walls extended to the mold case side to **fix** the mold case. The back light BL consists of a light **guide** plate GLB of an almost **square** transparent plate and a linear light source CFL disposed along one side of the light **guide** plate, and has an engaging projection SSTP formed on each of two sides of the light **guide** plate perpendicular to the linear light source. The mold case has an engaging recess ALV on each of two sides perpendicular to the linear light source so as to engage the engaging projection formed on each of the two sides of the light **guide** plate and has a **bridge** BRDG to connect the two sides where the engaging **recesses** are formed.  
COPYRIGHT: (C)2001,JPO

L85 ANSWER 12 OF 25 WPIX COPYRIGHT THE THOMSON CORP on STN  
 AN 1999-408524 [35] WPIX  
 DNN N1999-304899  
 TI Mounting structure for **liquid crystal** display element  
 - has curved portion provided in electrode lead and grooves provided in  
 holder for separating electrode lead of **liquid crystal**  
 display element from case when connecting case with **circuit**  
**board**.  
 DC P81 U14 V04  
 PA (NSSE) NIPPON SEIKI KK  
 CYC 1  
 PI JP 11160724 A 19990618 (199935)\* 6 G02F001-1345  
 JP 3395176 B2 20030407 (200324) 6 G02F001-1333 <--  
 ADT JP 11160724 A JP 1997-323674 19971126; JP 3395176 B2 JP 1997-323674  
 19971126  
 FDT JP 3395176 B2 Previous Publ. JP 11160724  
 PRAI JP 1997-323674 19971126  
 IC ICM **G02F001-1333**; G02F001-1345  
 ICS G09F009-00; H05K001-18  
 AB JP 11160724 A UPAB: 19990902  
 NOVELTY - Curved portion (2c) of electrode lead (2) of **liquid**  
**crystal** display element (1) and grooves (7) in a holder (8)  
 separate the electrode lead from a case (3). The curved portion is formed  
 at backside of a guide portion (2e) formed at the edge of electrode lead  
 for guiding lead inside an insertion hole (11) provided in the  
**circuit board** (4). DETAILED DESCRIPTION - The case has a  
**boss** (9) connected to a through hole (13) penetrating the front  
 and back of the **circuit board**. The **liquid**  
**crystal** display element is arranged on a mounting portion (6) of  
 the case.  
 USE - For **liquid crystal** display element.  
 ADVANTAGE - Prevents generation of crack in soldering region of  
 electrode lead and **circuit board** due to stress or  
 thermal expansion. Improves assembling speed by separating electrode lead  
 from case when connecting case with **circuit board**.  
 Fixing of case on **circuit board** can be done properly.  
 DESCRIPTION OF DRAWING(S) - The figure shows the perspective view of the  
 mounting structure of the **liquid crystal** display  
 element. (1) **Liquid crystal** display element; (2)  
 Electrode lead; (2c) Curved portion; (2e) Guide portion; (3) Case; (4)  
**Circuit board**; (6) Mounting portion; (7) Grooves; (8)  
 Holder; (9) **Boss**; (11) Insertion hole; (13) Through hole.  
 Dwg.1/6  
 FS EPI GMPI  
 FA AB; GI  
 MC EPI: U14-K01A1; **U14-K01A4B**; **V04-Q02A**

L85 ANSWER 17 OF 25 JAPIO (C) JPO on STN

AN 1999-153786 JAPIO

TI MOUNTING STRUCTURE OF **LIQUID CRYSTAL** DISPLAY ELEMENT

IN HIRATA YUJI; MOROHASHI KAZUO; YANAGIMACHI MASANOBU

PA NIPPON SEIKI CO LTD

PI JP 11153786 A 19990608 Heisei

AI JP 1997-320210 (JP09320210 Heisei) 19971121

PRAI JP 1997-320210 19971121

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999

IC ICM **G02F001-1333**

ICS G02F001-1345; G09F009-00; H05K001-18

AB PROBLEM TO BE SOLVED: To provide a mounting structure of a **liquid crystal** display element which does not cause solder crack in

soldered parts of electrode leads of the **liquid crystal**

display element and a circuit substrate even when a stress distortion

occurs by thermal expansion, and which is also able to improve assembling workability in the manufacturing process.

SOLUTION: A case body 3 has a mount part 6 for setting a **liquid crystal** display element 1. Electrode leads 2 disposed in a line on

a one side of **liquid crystal** display element 1, and

arranged to be abutted at least on a part of the case 3 when the

**liquid crystal** display element 1 is mounted on a mount

part 6. The **circuit board** 4 forms insertion holes 14

for inserting the electrode leads 2 therein and electrically connects the electrode leads 2 therewith, and also mounts the case body 3. Through-hole

16 is provided in a **circuit board** 4. A **boss**

body 9 is provided in the case body 3, and is also provided with a 1st

guide part 11 for guiding the electrode leads 2 into insertion holes 14

and a 2nd guide part 12 for separating the electrode leads 2 from the case

body 3 after the electrode leads 2 are guided into the insertion holes 14.

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L85 ANSWER 19 OF 25 JAPIO (C) JPO on STN

AN 1997-244052 JAPIO

TI DISPLAY DEVICE FOR ELECTRONIC APPARATUS

IN AWAI TAKASHI

PA CANON INC

PI JP 09244052 A 19970919 Heisei

AI JP 1996-51521 (JP08051521 Heisei) 19960308

PRAI JP 1996-51521 19960308

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1997

IC ICM G02F001-1345

ICS G02F001-1333; G09F009-00

AB PROBLEM TO BE SOLVED: To obtain a good assembly characteristic with a decreased number of parts and stable quality free from display defects by providing a holder for holding a **liquid crystal** display device, which is equipped with a frame part enclosing the mounting part, etc., for placing **liquid crystal** glass thereon and which is provided with an elastic part for energizing the glass in a plane direction.

SOLUTION: The **LCD** 10 is held on the **LCD** holder 20. The **LCD** holder 20 is formed by molding and has the placing part 21 to be placed with the **liquid crystal** glass of the **LCD** 10 and the frame part 22 enclosing the peripheral part of the **liquid crystal** glass placed on the placing part 21. The frame part 22 of the **LCD** holder 20 is provided with regulating parts 23a, 23b for preventing the disengagement of the **liquid crystal** glass placed on the placing part 21 in a perpendicular direction and is provided with the elastic apart 24 for energizing the **liquid crystal** glass in the horizontal direction. The lower side of the frame part 22 is provided with an engaging part 25 which is snap pawl to be engaged with an electric **circuit board** and a position **boss** 26 for positioning.

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L85 ANSWER 18 OF 25 JAPIO (C) JPO on STN

AN 1999-085045 JAPIO

TI DISPLAY MODULE

IN UCHIDA TOSHIAKI

PA CITIZEN WATCH CO LTD

PI JP 11085045 A 19990330 Heisei

AI JP 1997-245275 (JP09245275 Heisei) 19970910

PRAI JP 1997-245275 19970910

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999

IC ICM G09F009-00

ICS G02F001-1333

AB PROBLEM TO BE SOLVED: To decrease the number of parts to be built in and the man-hours for assembly and to make an information terminal device thinner by providing a **liquid crystal** cell driving **circuit board** with mounting parts provided with mounting holes for fixing a display module to a housing.  
SOLUTION: The corner parts of the **liquid crystal** display cell driving **circuit board** 3 are provided with the mounting parts 30a to 30d having the mounting holes 31a to 31d of a circular shape to the information terminal device at four points. Further, the peripheries of the mounting parts 30a to 30d are provided with reinforcing patterns 32a to 32h for improving the strength of the mounting parts 30a to 30d on both surfaces of the mounting parts 30a to 30d. The **liquid crystal** module 1 is fixed to the housing by the mounting parts 30a to 30d which are disposed in the corner parts of the **liquid crystal** cell driving **circuit board** 3 and are supported at a **boss** disposed by integral molding at the housing of the information terminal part and by the circular mounting holes 31a to 31d which are screwed to the screw holes of the **boss**.

COPYRIGHT: (C)1999,JPO

L85 ANSWER 20 OF 25 JAPIO (C) JPO on STN  
AN 1997-044096 JAPIO  
TI ELECTRONIC APPARATUS WITH **LIQUID CRYSTAL  
DISPLAY PANEL**  
IN ISHIZUKA MASANOBU; NISHII KOTA; KIMURA KOICHI  
PA FUJITSU LTD  
PI JP 09044096 A 19970214 Heisei  
AI JP 1995-191992 (JP07191992 Heisei) 19950727  
PRAI JP 1995-191992 19950727  
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1997  
IC ICM G09F009-00  
ICS G09F009-00; **G02F001-1333**  
AB PROBLEM TO BE SOLVED: To prevent uneven display caused by the heat of a  
**liquid crystal display panel** by  
constituting a thermal diffusion plate using a resin frame and a metal  
fitted into the frame and mounting this plate on a casing via this frame.  
SOLUTION: The casing is internally provided with a core 13 as the thermal  
diffusion plate. This core 13 supports a tablet 2a and the **liquid  
crystal display panel** 2b on the upper side  
thereof and supports a **printed circuit board**  
6 on the lower side. An aluminum sheet 14 is fitted into the resin frame  
15. The resin frame 15 integrally has ribs 15 for supporting the tablet 2a  
and the **liquid crystal display panel**  
2b on its front surface, **bosses** 5b for fixing a **printed  
circuit board** 6 and detaining pieces 15c for detaining  
the core 13 itself to the inside wall of the casing. The heat generated  
from electronic parts including the **LCD** driving element on the  
**printed circuit board** 6 at the time of driving  
a notebook type personal computer is once accepted in the aluminum sheet  
14. The aluminum sheet 14 uniformly distributes the accepted heat by  
thermal conduction and releases the heat to the **liquid  
crystal display panel** 2b.  
COPYRIGHT: (C)1997,JPO

L80 ANSWER 5 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 2003-401637 [38] WPIX

DNN N2003-320312

TI Backlit liquid crystal display module for computer monitor, has projections on sides of catching jaws and light guide plate to be received in respective **recesses** formed in mold plate during assembly.

DC P81 P85 U14 W03 W05

IN JUNG, S C; JEONG, S

PA (SMSU) SAMSUNG ELECTRONICS CO LTD

CYC 4

|    |               |    |                    |    |               |     |
|----|---------------|----|--------------------|----|---------------|-----|
| PI | US 2003016313 | A1 | 20030123 (200338)* | 30 | G02F001-1333  | <-- |
|    | CN 1399160    | A  | 20030226 (200338)  |    | G02F001-1333  | <-- |
|    | JP 2003043456 | A  | 20030213 (200338)  | 17 | G02F001-1333  | <-- |
|    | KR 2003008790 | A  | 20030129 (200338)  |    | G02F001-13357 |     |

ADT US 2003016313 A1 US 2002-196986 20020718; CN 1399160 A CN 2001-139494 20011127; JP 2003043456 A JP 2001-396002 20011227; KR 2003008790 A KR 2001-43706 20010720

PRAI KR 2001-43706 20010720

IC ICM **G02F001-1333**; G02F001-13357

ICS G02F001-1335; G09F009-00; G09F009-35

AB US2003016313 A UPAB: 20030616

NOVELTY - The light guide plate (224) has thin projections (224a',224b') on the side walls of the catching jaws (224a,224b) formed at the corners facing the lamp (221). The mold frame (400) has **recesses** beside catching **bosses** (402a,404a) to receive the projections of the light guide plate during assembly.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for liquid crystal display (LCD) device.

USE - For computer monitor, TV and other display device.

ADVANTAGE - Restricts the movement of light guide plate received in mold plates and prevents its damage even if exceeded impacts are applied on the side walls of the mold frame. The projections are formed to have slopping shape preventing the concentration of light from the lamp.

DESCRIPTION OF DRAWING(S) - The figure shows the exploded perspective view of light guide plate and mold frame.

lamp 221

light guide plate 224

catching jaws 224a,224b

thin projections 224a',224b'

mold frame 400

catching **bosses** 402a,402b

Dwg.7/21

FS EPI GMPI

FA AB; GI

MC EPI: U14-K01A1C; U14-K01A4A; U14-K01A4C; W03-A08B1; W05-E05B1

L85 ANSWER 14 OF 25 JAPIO (C) JPO on STN

AN 2003-015202 JAPIO

TI CAMERA

IN TANAKA YASUHIKO; OHASHI KATSUAKI

PA FUJI PHOTO OPTICAL CO LTD

PI JP 2003015202 A 20030115 Heisei

AI JP 2001-199019 (JP2001199019 Heisei) 20010629

PRAI JP 2001-199019 20010629

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2003

IC ICM G03B017-02

ICS G02F001-13; **G02F001-1333**; G02F001-13357; H05K007-12;  
H05K007-14

AB PROBLEM TO BE SOLVED: To miniaturize a camera by superposing and attaching an **LCD** and a **printed circuit board**

inside the external covering member of the camera, forming **recesses** on the covering member for avoiding the contact of an element mounted on the **printed circuit board**

with the covering member, and narrowing the spacing between the covering member and a presser member.

SOLUTION: The recess 67 is formed inside a rear cover 51, and the **LCD** 54, a light transmission plate 55 and a flexible substrate 56 are fitted in this recess 67 in order. The **LCD** 54, the light transmission plate 55 and the flexible substrate 56 are fixed by screwing a presser plate 57 to the rear cover 51. On the flexible substrate 56, elements 64 and 65 are mounted at the position where they do not overlap with the light transmission plate 55. The **recesses** 67 and 69 for avoiding contact of the elements 64 and 65 are formed on the rear cover 51.

COPYRIGHT: (C)2003,JPO

L80 ANSWER 6 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 2003-196837 [19] WPIX

DNN N2003-156139

TI Fixing structure for printed circuit board, comprises multiple board locks with U-shaped pivot portion having flexible locking tap that passes through inverted T-shaped through-hole of insulator.

DC V04

IN HUANG, A

PA (OVIL-N) OVILUX CORP

CYC 1

PI US 6471544 B1 20021029 (200319)\* 14 H01R013-73

ADT US 6471544 B1 US 2001-888807 20010625

PRAI US 2001-888807 20010625

IC ICM H01R013-73

AB US 6471544 B UPAB: 20030320

NOVELTY - An insulator (1) with a narrow mediate section and positioning **recesses**, has an end face protruded with a chamfered latch **boss**, and sides formed with opposite longitudinal recessed sockets having a bottom and an adjoining side with an inverted T-shaped through-hole (13). The integrated multiple board locks (2) has a U-shaped pivot portion with a flexible locking tab (23) passing through the through-hole, such that it rests on an end face of the hole.

USE - For connecting a connector and a printed circuit board.

ADVANTAGE - As the through-hole has the inverted T-shape, the board lock is quickly and accurately inserted into the insulator, the assembling process is facilitated, the components and cost are reduced. As the locking tab rests on the end face of the through-hole, the board lock is prevented from moving outward and the quality of the product is enhanced. The narrow mediate section and the positioning **recesses** allow the conductors to be locked and positioned effectively, the tilting of the conductors, breaking of the receptacle are prevented.

DESCRIPTION OF DRAWING(S) - The figure shows an exploded perspective view of the fixing structure for connecting the connector and the PCB.

Insulator 1

Board locks 2

Through-hole 13

Locking tab 23

Dwg.1/11

FS EPI

FA AB; GI

MC EPI: V04-D09; V04-G02; V04-M05; **V04-Q02A**

L80 ANSWER 10 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN  
AN 1999-239496 [20] WPIX  
DNN N1999-178762  
TI Inspection pattern arrangement for **PCB** - has dummy pattern  
arranged in contact with contour whose width is trimmed along contour by  
die punching.  
DC V04  
PA (NIDF) NEC HOME ELECTRONICS LTD  
CYC 1  
PI JP 11068264 A 19990309 (199920)\* 3 H05K001-02  
ADT JP 11068264 A JP 1997-221253 19970818  
PRAI JP 1997-221253 19970818  
IC ICM H05K001-02  
ICS H05K003-00  
AB JP 11068264 A UPAB: 19990603  
NOVELTY - A dummy pattern (40) is provided in a space in contact with the  
contour of substrate (1). The width of pattern is trimmed along contour of  
the substrate, by die punching. A slit (3), a hole (51), a **square**  
hole (52) are provided near the **dummy** pattern according to  
standard **position**.  
USE - For quality evaluation of printed circuit **board** (  
**PCB**) during die processing.  
ADVANTAGE - The quality of **PCB** is judged easily using dummy  
pattern thereby inferior goods generation is prevented. As visual  
observation of quality selection is estimated thereby **stable**  
quality is easily maintained. DESCRIPTION OF DRAWING(S) - The figure shows  
the block diagram of the **PCB**. (1) Substrate; (3) **Slit**;  
(40) **Dummy** pattern; (51,52) **Holes**.  
Dwg.1/2  
FS EPI  
FA AB; GI  
MC EPI: **V04-Q05**; V04-R06A

L85 ANSWER 5 OF 25 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 2003-545617 [52] WPIX

DNN N2003-433058

TI Camera includes back lid in which **recesses** for avoiding contact with electrical elements mounted in **PCB** at surface side of **LCD**, are formed.

DC P81 P82 S06 U14 V04

PA (FUOP) FUJI PHOTO OPTICAL CO LTD

CYC 1

PI JP 2003015202 A 20030115 (200352)\* 7 G03B017-02

ADT JP 2003015202 A JP 2001-199019 20010629

PRAI JP 2001-199019 20010629

IC ICM G03B017-02

ICS G02F001-13; **G02F001-1333**; G02F001-13357; H05K007-12; H05K007-14

AB JP2003015202 A UPAB: 20030813

NOVELTY - The **recesses** (69) for avoiding contact with electrical elements (64,65) are formed in a back lid (51), while the electrical elements are mounted in the **PCB** (56) at the surface side of the **LCD** (54).

USE - Camera.

ADVANTAGE - The size of the camera is reduced by forming **recesses** to avoid contact of the back lid with the electrical elements.

DESCRIPTION OF DRAWING(S) - The figure shows a sectional view of the back lid.

Back lid 51

**LCD** 54

**PCB** 56

Electrical elements 64,65

**Recesses** 67,69

Dwg.9/12

FS EPI GMPI

FA AB; GI

MC EPI: S06-B08; U14-K01A4; **V04-Q02A**; V04-T01; V04-T02

L85 ANSWER 11 OF 25 WPIX COPYRIGHT THE THOMSON CORP on STN  
AN 2000-261245 [23] WPIX  
DNN N2000-194743  
TI Electronic device with display window, has U-shaped frame with  
**bosses** to fit into holes of insulating sheet and **printed**  
**circuit board**.  
DC P81 P85 U14 W03  
PA (NIDE) NEC SHIZUOKA LTD  
CYC 1  
PI JP 2000066175 A 20000303 (200023)\* 6 G02F001-1333 <--  
ADT JP 2000066175 A JP 1998-230694 19980817  
PRAI JP 1998-230694 19980817  
IC ICM **G02F001-1333**  
ICS G09F009-00; H04N005-66  
AB JP2000066175 A UPAB: 20000516  
NOVELTY - U-shaped frame (3) has the **bosses** (3f,3g) to fit into  
the holes (4a,4b) of an insulating sheet (4). Another set of  
**bosses** (3a,3b) are formed on the back side of the frame to fit  
into the holes (2a,2b) of the **printed circuit**  
**board** (2) so that the board is connected to the frame.  
DETAILED DESCRIPTION - An insulating sheet (4), back light and the  
**LCD** module (7) are piled up and are installed on the front side of  
the frame (3). The terminal of the back light is soldered to the land  
(2c). The spacer (6) adjoins the insulating sheet and the back light and  
is so distributed that the front side of the frame and the **LCD**  
module are bonded directly. The holes (4a,4b) of the insulating sheet  
exist on both sides of the terminal of the back light bonded by the  
insulating sheet.  
USE - Electronic device with display window.  
ADVANTAGE - Portable mounting efficiency of the components is high.  
Provides weight reduction and high reliability of the display back light.  
Stress to the terminal of the back light is reduced and removal of the  
back light from reuse is simple.  
DESCRIPTION OF DRAWING(S) - The drawing is the exterior perspective  
diagram of the electronic device with the display part.  
**Printed circuit board 2**  
Holes 2a,2b,4a,4b  
Frame 3  
**Bosses** 3a,3b,3f,3g  
Insulating sheet 4  
Adhesive agent 4c  
Spacer 6  
**LCD** module 7  
Dwg.2/5  
FS EPI GMPI  
FA AB; GI  
MC EPI: U14-K01A1; W03-A08



L85 ANSWER 25 OF 25 INPADOC COPYRIGHT EPO on STN

## LEVEL 1

AN 149505559 INPADOC ED 20010521 EW 200120 UP 20020916 UW 200237

TI PORTABLE COMPUTER WITH IMPROVED ASSEMBLY DESIGN.

IN CHO JEONG-SEOP

INS CHO JEONG-SEOP

INA KR

PA SAMSUNG ELECTRONICS CO., LTD.

PAS SAMSUNG ELECTRONICS CO LTD

PAA US

DT Patent

PIT USBA PATENT (NO PREVIOUS PRE-GRANT PUBLICATION)

PI US 6219230 BA 20010417

AI US 1999-451933 A 19991201

PRAI KR 1998-24247U U 19981201 (EDPR 20020916)

AIT USA patent application

PRAIT KRU application for utility model

ICM (7) G06F001-16

ICS (7) H05K007-00

EPC G06F1/16P2

NCL 361683; X3122232; X 16342

AB The present invention relates to a portable computer having a base and a **display panel** coupled by a hinge structure. The base has a bottom and a top housing. The bottom housing has bottom **bosses** with holes extending upwardly. A **circuit board** has holes aligned with the bottom housing holes. The top housing also has holes aligned with the bottom housing. A top housing is coupled to the **circuit board** and the bottom housing. A **display panel** incorporating a **display** screen is attached pivotally to the top housing with a hinge assembly. The hinge assembly has holes aligned with the holes of the bottom housing. A pair of caps are coupled to the top housing to cover the hinge assembly. Each cap has a **boss** with a hole aligned with the hole of the bottom. A screw is inserted from outside the bottom housing and through the **circuit board**, the top housing, the hinge assembly, and finally coupling with the cap **boss**. A single set of screws attach the base portions and pivotally attaches the **display panel** with the base.

L85 ANSWER 24 OF 25 INPADOC COPYRIGHT EPO on STN

## LEVEL 1

AN 157783927 INPADOC ED 20010926 EW 200138 UP 20020701 UW 200226  
TI STRUCTURE FOR MOUNTING AN EL LAMP.  
IN MIZUNO HIROMICHI  
INS MIZUNO HIROMICHI  
INA JP  
PA NEC CORPORATION  
PAS NIPPON ELECTRIC CO  
PAA US  
DT Patent  
PIT USBA PATENT (NO PREVIOUS PRE-GRANT PUBLICATION)  
PI US 6285125 BA 20010904  
AI US 1999-276159 A 19990325  
PRAI JP 1998-82146 A 19980327 (EDPR 19991206)  
AIT USA patent application  
PRAIT JPA patent application  
ICM (7) B05D001-36  
EPC G02F1/13B; G02F1/13357D  
NCL 313512; X313500; X313511  
AB A structure for mounting an EL (Electro Luminescence) lamp of the present invention includes a panel frame affixed to a **circuit board** and receiving an **LCD (Liquid Crystal Display) panel** therein. The EL lamp is interposed between the panel frame and the **LCD** panel and includes an electrode portion connected to the **circuit board** by electrode terminals. Holes are formed in the EL lamp in the vicinity of the electrode portion and open at opposite major surfaces of the EL lamp. **Bosses** are formed in the panel frame, and each is partly received in one of the holes. Even when an unexpected impact acts on the **LCD** panel, the **bosses** prevent the EL lamp from moving in the horizontal direction. This successfully protects the electrode terminals from breakage due to fatigue and prevents them from being peeled off from the EL lamp, enhancing reliable connection both mechanically and electrically.

L85 ANSWER 23 OF 25 INPADOC COPYRIGHT EPO on STN

## LEVEL 1

AN 177620087 INPADOC ED 20020624 EW 200225 UP 20040115 UW 200403

TI **LCD-device retaining structure of portable electronic equipment.**

IN MIZUNO HIROMICHI

INS MIZUNO HIROMICHI

INA JP

PA NEC CORPORATION

PAS NIPPON ELECTRIC CO

PAA JP

DT Patent

PIT USBA PATENT (NO PREVIOUS PRE-GRANT PUBLICATION)

PI US 6398560 BA 20020604

AI US 1999-470397 A 19991222

PRAI JP 1998-371453 A 19981225 (EDPR 20000828)

AIT USA patent application

PRAIT JPA patent application

ICM (7) H01R012-00

EPC **G02F1/13B**; H01R9/07B4

NCL 439 67; X439496

AB A **LCD-device retaining structure of portable electronic equipment** is provided, which suppresses any damage of the **LCD** device such as cracks even if the equipment is subjected to external shock or forces. This structure comprises (a) a first flexible **circuit board** having a driver IC for driving an **LCD** device, first terminals electrically connected to the IC, and second terminals electrically connected to the IC; the first terminals being mechanically and electrically connected to the **LCD** device; the first **circuit board** having penetrating holes; (b) a second **circuit board** having specific circuits mechanically and electrically connected to the second terminals of the first **circuit board**; and (c) a frame member having a lower frame part and **bosses** extending downward; the **LCD** device being fixed on an upper face of the frame member; the lower frame part being contacted with the second **circuit board** to form a space between the member and the second **circuit board**, thereby fixing the member to the second **circuit board** and covering the second terminals of the first **circuit board** in the space; the lower frame part having a window for allowing the first **circuit board** to enter the space through the lower frame part; the **bosses** being located near the window and penetrating the holes of the first **circuit board** to be contacted with the second **circuit board** in the space.

L80 ANSWER 7 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 2000-138873 [13] WPIX

DNN N2000-103879

TI Assembly for integrated circuit on plastic support.

DC T04 U11 V04

IN ENOUF, G; GAUMET, M

PA (DELR) DE LA RUE CARTES & SYSTEMES SAS

CYC 1

PI FR 2781309 A1 20000121 (200013)\* 11 H01L021-58

ADT FR 2781309 A1 FR 1998-9045 19980715

PRAI FR 1998-9045 19980715

IC ICM H01L021-58

ICS H05K001-02

ICA G06K019-077

AB FR 2781309 A UPAB: 20000313

NOVELTY - The method comprises the creation of conducting **bosses** on a plastic support (5). This is done by **stamping** the support, when hot, with a metal foil sheet (3) arranged above it, using a template (1). The upside-down integrated circuit is mounted on the **bosses**

.  
 DETAILED DESCRIPTION - The template tool (1) for **stamping** the support (5) has small cavities corresponding to the positions in which the conducting **bosses** will be created in the plastic support. As the support is hot when **stamped**, it flows into the cavities within the template (1), with the metallic foil forming conducting **bosses** on top of the **bosses**.

USE - For fabrication of flip chips, or integrated circuits mounted on a plastic support with the connections on the face opposite to the plastic support, in which thickness of the integrated circuit lies within the depth of the cut out of the plastic support.

ADVANTAGE - The method provides a simple and more economical means of producing the plastic chip support, and for mounting the chip on its support.

DESCRIPTION OF DRAWING(S) - The figure shows a side sectional view through a chip support, during its formation

Template tool 1

Metallic foil 3

Cavities in template 4

Plastic support 5

Dwg.2c/4

FS EPI

FA AB; GI

MC EPI: T04-K; T04-K01; U11-E02A3; **V04-Q05**

L80 ANSWER 8 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 1999-575076 [49] WPIX

DNN N1999-424235

TI **LCD alignment** jig attached to console panel in copier, printer - has transparent plastic material made **rectangular** plates with through **holes** corresponding to **alignment** marks of **LCD**.

DC P81 P85 U14

PA (RICO) RICOH KK

CYC 1

PI JP 11249097 A 19990917 (199949)\* 6 G02F001-13

ADT JP 11249097 A JP 1998-71379 19980305

PRAI JP 1998-71379 19980305

IC ICM G02F001-13

ICS **G02F001-1333**; G09F009-00

AB JP 11249097 A UPAB: 19991124

NOVELTY - A transparent plastic material made rectangular plate (2) of jig (1) is detachably fit to an internal circumference surface (34) of a **LCD** mounting window (33a) of a case (32) of console panel (31) so that legs (4) of the jig do not contact **LCD** surface. Through-**holes** (3) are formed in the plate, corresponding to **alignment** marks of the **LCD**. DETAILED DESCRIPTION - Legs (4) are integrally molded to respective sides of the rectangular plate (2) which has a size almost equal to an **LCD** (33). A rod-shaped pushing implement is inserted in the through-hole in plate and the **alignment** mark of the **LCD** is pressed by end of the pushing implement.

USE - Is attached to console panel in copier, printer.

ADVANTAGE - Performs simple, quick and correct confirmation operation of **alignment** condition of **LCD** to case by simple component. Prevents omission of rod-shaped pushing implement from plate. DESCRIPTION OF DRAWING(S) - The figure shows the explanatory drawing showing **LCD aligning** method using jig. (1) Jig; (2) Plate; (3) Through hole; (4) Leg; (31) Console panel; (32) Case; (33) **LCD**; (33a) **LCD** mounting window; (34) Internal circumference surface.

Dwg.2/5

FS EPI GMPI

FA AB; GI

MC EPI: U14-K01A4A

L80 ANSWER 11 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 1997-551586 [51] WPIX

DNN N1997-459578

TI Component group carrier for circuit **boards** inserted on **guide** rails - has cylindrical **holes** in module rails and protrusions on side walls arranged so that intermediate **bolt** part contacts outer edge of **fixing** hole during tightening and presses module rail against protrusion.

DC Q61 V04

IN GUNTHER, H; HAAG, V; JOIST, M; MAZURA, P; PFEIFER, K; THALAU, K; WEISS, U; GUENTHER, H

PA (SCHR-N) SCHROFF GMBH

CYC 26

|    |             |    |   |           |      |            |     |
|----|-------------|----|---|-----------|------|------------|-----|
| PI | DE 19644419 | C1 | 19971127  | (199751)* | 8    | H05K007-14 |     |
|    | EP 838984   | A2 | 19980429  | (199821)  | GE 8 | H05K007-14 |     |
|    |             | R: | AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE |           |      |            |     |
|    | CZ 9703415  | A3 | 19980513  | (199825)  |      | H05K005-02 |     |
|    | JP 10135667 | A  | 19980522  | (199831)  | 6    | H05K007-14 |     |
|    | AU 9742847  | A  | 19980521  | (199832)  |      | H05K007-18 |     |
|    | CA 2218432  | A  | 19980425  | (199836)  |      | H05K007-14 |     |
|    | SG 53106    | A1 | 19980928  | (199904)  |      | H05K007-14 |     |
|    | AU 701713   | B  | 19990204  | (199917)  |      | H05K007-18 |     |
|    | KR 98033114 | A  | 19980725  | (199932)  |      | H05K007-00 | <-- |
|    | CZ 285934   | B6 | 19991117  | (200002)  |      | F16B035-04 |     |
|    | US 6065614  | A  | 20000523  | (200032)  |      | H05K007-14 |     |
|    | CA 2218432  | C  | 20010925  | (200159)  | EN   | H05K007-14 |     |
|    | KR 287028   | B  | 20010416  | (200219)  |      | H05K007-00 | <-- |
|    | TW 444525   | A  | 20010701  | (200220)  |      | H05K003-00 |     |
|    | EP 838984   | B1 | 20030205  | (200318)  | GE   | H05K007-14 |     |

PRAI DE 1996-19644419 19961025

AB DE 19644419 C UPAB: 19971222

The carrier has two parallel side walls (3) and at least four parallel module rails (4) to which **guide** rails (5) can be attached and with cylindrical **fixing bolt holes** (10) at their ends. The side walls have **bolt holes** (9) and protrusions (17) for application of the module rails.

The **fixing** bolts (8) have a flat head (11), an essentially cylindrical threaded shaft (12) and an intermediate part **narrowing** towards the shaft. The cylindrical **holes** in the module rails and protrusions on the side walls are arranged so that the intermediate part contacts the outer edge of the **fixing** hole during tightening and presses the corresp. module rail against the corresp. protrusion.

ADVANTAGE - Has new type of screw connection between module carriers and side parts, enabling close assembly tolerances to be maintained simply. The carrier withstands high loadings and is **stable** over long periods.

Dwg.1/4

FS EPI GMPI

FA AB; GI

MC EPI: V04-Q02; V04-S09; V04-T02

L85 ANSWER 7 OF 25 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 2003-375868 [36] WPIX

DNN N2003-299929 DNC C2003-099998

TI Surface light source for **liquid crystal** display, has V-shaped recess side end face of **printed circuit board**, in which electrode wire of cold cathode tube is inserted and soldered.

DC L03 T04 U14 V04 W03 W05 X26

PA (SNLE) STANLEY ELECTRIC CO LTD

CYC 1

PI JP 2002324592 A 20021108 (200336)\* 5 H01R004-02

ADT JP 2002324592 A JP 2001-128567 20010426

PRAI JP 2001-128567 20010426

IC ICM H01R004-02

ICS H01R012-32

AB JP2002324592 A UPAB: 20030609

NOVELTY - V-Shaped **recesses** are formed at the side end face of a **printed circuit board (PCB)** (6) and connected to conductive pattern (12), in which electrode wires (5) of cold cathode tube (3) are inserted and soldered.

USE - For **liquid crystal** displays used in computers and television.

ADVANTAGE - Since recess is provided at the side end face of **PCB**, soldering of wire is made easy.

DESCRIPTION OF DRAWING(S) - The figure shows an explanatory view of connection structure of **printed circuit board** with cold cathode tube.

Cold cathode tube 3

Electrode wire 5

**Printed circuit board 6**

Conductive pattern 12

Dwg.1/8

FS CPI EPI

FA AB; GI

MC CPI: L03-G05A

EPI: T04-H03D; U14-K01A4C; **V04-Q02A**; W03-A08B1; W05-E05B1;

X26-D; X26-X

L80 ANSWER 15 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN  
 AN 1994-103384 [13] DNN N1994-080738  
 TI Electric junction box with sealed cable entry gland - uses tapered entry **boss** that accepts tapered ring to deform inner edge of **boss** so that it clamps around cable insulation.

IN MAURICE, A  
 PA (ZEDE-N) ZEDEL; (PETZ-N) PETZL SA  
 PI EP 589804 A1 19940330 (199413)\* FR 11 H02G003-06  
 FR 2696052 A1 19940325 (199415) H02G003-22  
 US 5403976 A 19950404 (199519) 10 H02G003-18  
 EP 589804 B1 19960327 (199617) FR 12 H02G003-06  
 DE 69301990 E 19960502 (199623) H02G003-06  
 ES 2086911 T3 19960701 (199633) H02G003-06  
 PRAI FR 1992-11304 19920921  
 AB EP 589804 A UPAB: 19940517

The junction box (100) has two chambers (104,106). A sheathed cable (20) enters one of the chambers (106) through a hole (26) passing through a **boss** (24) formed in the chamber wall. The cable is clamped by a tapered ring (32) that fits into a tapered recess in the inside of the **boss**. This deforms the **boss** so that it is clamped tightly around the cable insulation, forming a seal.

The cable is then stripped inside the enclosure and connection (21,23) made to metal spring contacts (108,110) set in **recesses** in the wall (102) that divides the junction box.

USE/ADVANTAGE - Simplified, low cost assembly for sealed junction boxes for batteries or for electric lighting assemblies.

ABEQ US 5403976 A UPAB: 19950524

An end piece is provided for passage of an electrical power supply cable through an orifice of a casing. The end piece includes a flexible bearing flange cooperating with an auxiliary securing part arranged as a hollow button having a clamping surface in the shape of a rigid wedge bringing about elastic deformation of the flange.

Progressive clamping of the cable is carried out when the button moves from a released position to a secured position. The securing part of the passage is an integral part of the insulating wall supporting the contacts.

ADVANTAGE - Simplifies assembly of tight passage of electrical cable, and enables part of passage to be used for auxiliary functions.

ABEQ EP 589804 B UPAB: 19960428

A tightly sealed casing made of plastic material for housing an electrical apparatus, comprising a first wall (22) equipped with an end piece (24) for the passage of a power supply cable (20) through an orifice (26), and sealing means designed to seal off the clearance arranged between the orifice (26) and the external face of the cable (20), characterized in that the end piece (24) of the casing (10, 100, 200) comprises a flexible bearing flange (28, 42), arranged around the cable (20) when the latter is inserted in the orifice (26), an auxiliary securing part (30) is tightened onto the end piece (24) bringing about elastic deformation of the flange (28, 42) and a simultaneous clamping action of the cable (20) in the sealing zone, a clamping surface (32) of said securing part (30) in the shape of a rigid wedge cooperates with the flange (28, 42) to ensure progressive clamping of the cable (20) when relative movement of said part (30) takes place from a released position to a secured position, the securing part (30) is securedly united to a second insulating separating wall (102, 202) supporting an electrical component (108, 110, 206) arranged inside the casing (100, 200).



L80 ANSWER 16 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 1992-260204 [32] WPIX

TI Control appts. for current circuit monitoring - involves housing with inlet side covered by baseplate with pin contacts forming part of at least one **stamp** grid.

DC S01 V04

IN BETSCH, H; SCHUETZ, J

PA (SWFA) SWF AUTO-ELECTRIC GMBH; (INTT) ITT AUTOMOTIVE EURO GMBH

CYC 1

PI DE 4102349 A 19920730 (199232)\* 5 H05K007-02

DE 4102349 C2 20001123 (200061) H05K007-02

ADT DE 4102349 A DE 1991-4102349 19910126; DE 4102349 C2 DE 1991-4102349 19910126

PRAI DE 1991-4102349 19910126

IC ICM H05K007-02

ICS H01R004-48; H02B001-20; H05K001-02

AB DE 4102349 A UPAB: 19931006

At least one conductor plate is traversed by parts of the **stamp** grid. The baseplate (10) consists of at least two plate parts (30, 32, 34, 36) which can be connected to one another. In or between the plate parts **recesses** (40, 42, 44) are formed for the parts of the **stamp** grid cross through the baseplate (10). One plate part (30) has pin locations or pin projections which work in conjunction with pin projections or pin locations on the other plate part (32). The **recesses** are complementary to the accommodated parts of the **stamp** grid. The plate parts are welded to one another e.g. by ultrasound.

At least one part of at least one **stamp** grid has a contact spring fitted on to it, and this spring with the grid part or alone forms a pin accommodation for a counter pin.

ADVANTAGE - Current circuit monitoring, using a control appts. in which **stamp** grid is connectable to baseplate rapidly.

2/3

FS EPI

FA AB; GI

MC EPI: S01-G01B3; V04-Q05; V04-T01

L80 ANSWER 23 OF 26 JAPIO (C) JPO on STN

AN 1998-148817 JAPIO

TI LIQUID CRYSTAL DISPLAY DEVICE

IN SAKAKURA HIROYUKI; SATO HIROYUKI

PA MATSUSHITA ELECTRIC IND CO LTD

PI JP 10148817 A 19980602 Heisei

AI JP 1996-306485 (JP08306485 Heisei) 19961118

PRAI JP 1996-306485 19961118

SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1998

IC ICM **G02F001-1333**

AB PROBLEM TO BE SOLVED: To enhance the mechanical strength of fitting foot parts of a casing without increasing the number of foot parts and without thickening the thickness of a plate by formingly providing ribs for reinforcement at the bending angular part between the side face of the casing and a fitting foot part.

SOLUTION: A fitting foot part 11 is made to be protrudingly provided from the edge part of the side face 10a of a casing 10 parallel with the principal plane of the casing 10 by bending a metallic plate at the same time the casing 10 is formed by bending and working the plate. Moreover, ribs for reinforcement 15 are formingly provided at the vertical angular part between the side face 10a of the casing 10 and the fitting foot part 11, for example, by a die-**stamping** working at the same time of bending working of the fitting foot part 11 or a different working. the rib for reinforcement 15 is made so that the outside is a projecting shape and the inside is a recessed shape. However the fitting foot part 11 is fixed to the **boss** 12 of a main devices side with a washer 13 and a screw 14, even when the stress due to the falling shock of the main body is exerted on the part 11, since it is mechanically reinforced, it is not brought to be damaged and therefore circuit parts mounted on a liquid crystal device are also protected.

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L80 ANSWER 13 OF 26 WPIX COPYRIGHT THE THOMSON CORP on STN

AN 1995-133163 [18] WPIX

CR 1995-133288 [18]

DNN N1995-104811

TI Mounting frame for electrical equipment - comprises four posts extending between lower plinth and identically formed cover plate, with front arms and rear arms projecting at plinth, and cover plate for securing enclosure panels.

IN MAZURA, P; SCHWENK, H

PA (SCHR-N) SCHROFF GMBH

|    |    |          |    |          |           |    |            |
|----|----|----------|----|----------|-----------|----|------------|
| PI | GB | 2282527  | A  | 19950412 | (199518)* | 16 | H05K007-18 |
|    | DE | 4333947  | A1 | 19950413 | (199520)  | 8  | H05K005-00 |
|    | FR | 2711019  | A1 | 19950414 | (199520)  |    | H02B001-30 |
|    | FR | 2711036  | A3 | 19950414 | (199520)  |    | H05K005-00 |
|    | JP | 07122866 | A  | 19950512 | (199528)  | 7  | H05K007-18 |
|    | US | 5441337  | A  | 19950815 | (199538)  | 7  | A47B047-03 |
|    | US | 5488543  | A  | 19960130 | (199611)  | 7  | H02B001-01 |
|    | DE | 4333947  | C2 | 19960808 | (199636)  | 6  | H05K005-00 |
|    | GB | 2282527  | B  | 19970409 | (199718)  |    | H05K007-18 |
|    | IT | 1273406  | B  | 19970708 | (199814)  |    | H05K000-00 |

AB GB 2282527 A UPAB: 19950518

The mounting frame for an **appliance** cabinet, comprises a lower plinth (1), and upper cover plate (2), and parallel posts (3) of equal length extend between the plinth (1) and the cover plate (2). The frontal surfaces (4) of the posts (3) on two sides have securing bores (5), and the plinth (1) and the cover plate (2) carry groups of securing holes (6). The plinth (1) and the cover plate (2) are rigidly connected with the posts by using securing **screws** (7) which project through the securing **holes** (6) and engage in the securing bores (5). The plinth (1) and the cover plate (2) are formed essentially of a securing plate (8) having a **rectangular** contour which carries the groups of securing **holes** (6).

On one of the longitudinal sides (9) of the plinth (1) and of the cover plate (2), two front arms (10) project perpendicularly forwardly and form a front recess (10) between themselves. At the opposite longitudinal sides (11) of the plinth (1) and of the cover plate (2), two rear arms (12) project perpendicularly out and form a rear recess (12') between themselves. The front and rear arms (10 and 12) are formed on the ends of the longitudinal sides (9 and 11), and each of a front and a rear flange (10 or 12) are **aligned** with each other.

USE/ADVANTAGE - For **appliance** cabinets for receiving electrical, electronic and opto-electronic components in connection with the erection and operation of local networks where large thicknesses of cabling, utilising cables of larger diameter, are employed. All requirements for the unhindered supply of a large number of cable strands of low flexibility can be fulfilled in the region of mounting of the electric/electronic elements.

ABEQ US 5441337 A UPAB: 19950927

The mounting frame (1) includes side (2), floor (3) and ceiling (4) panels, a stand, a rear wall (5) and a door (6), all disposed on a support base and a cabinet base (7). Also provided are a rectangular frame having two vertical frame legs (8,9) with horizontal upper (10) and lower (11) connectors which serve as the stand. Two upper (15,16) and two lower (17,18) forward support arms protrude from the front side of the frame, and two upper (20,21) and two lower (22,23) rear support arms protrude from the rear side.

All of the support arms are attached in the region of the frame corners. They are disposed parallel to one another and perpendicular to the plane of the frame. The side, floor and ceiling panels, rear wall and the door are disposed on the support arms.

USE/ADVANTAGE - For construction and operation of local network, installing structural group carriers, housings of electronic and optoelectronic components requiring high density and their accessories. Free access of cables and cable strands into installation region of components.

ABEQ US 5488543 A UPAB: 19960315

A frame stand for a device cabinet serving in the installation of component carriers of industrial electronics, and which is provided with panels, comprising: a lower base plate; an upper lid plate; parallel posts of equal length extending between the base plate and lid plate, the end faces on both sides of the posts have fastening bores; said base plate and lid plate having groups of fastening holes; said base plate and lid plate being **fixedly** connected to the posts by fastening **screws** which pass through the fastening **holes** and extend into the fastening bores; said base plate and lid plate being essentially formed by a fastening plate which has a **rectangular** base outline and groups of fastening **holes**; two front brackets that form a front **recess** between themselves and projecting at a right angle to the one longitudinal side of the base plate and the lid plate; two rear brackets arranged on the opposite longitudinal side of the base plate and lid plate, said rear brackets forming a rear recess between themselves and projecting at a right angle; said front and rear brackets being formed onto the ends of the longitudinal sides; and, one front and one rear bracket are **aligned** respectively with one another.

ABEQ GB 2282527 B UPAB: 19970502

A mounting frame for an **appliance** cabinet, the cabinet serving for mounting sub-racks of the electronics industry and provided with enclosure panels, the frame having the following features - a lower plinth (1), - an upper cover plate (2), - parallel posts (3) of equal length which extend between the plinth (1) and the cover plate (2), - the frontal surfaces (4) of the posts (3) on two sides having securing bores (5), - the plinth (1) and the cover plate (2) carry groups of securing holes (6), - the plinth (1) and the cover plate (2) are rigidly connected with the posts by means of securing **screws** (7) which project through the securing **holes** (6) and engage in the securing bores (5), - the plinth (1) and the cover plate (2) are formed essentially of a securing plate (8) having a **rectangular** contour which carries the groups of securing **holes** (6), - on one of the longitudinal sides (9) of the plinth (1) and of the cover plate (2) two front arms (10) project perpendicularly forwardly and form a front recess (10) between themselves, - at the opposite longitudinal sides (11) of the plinth (1) and of the cover plate (2) two rear arms (12) project perpendicularly out and form a rear recess (12') between themselves, - the front and rear arms (10 and 12) are formed on the ends of the longitudinal sides (9 and 11), - each of a front and a rear flange (10 or 12) are **aligned** with each other.

Dwg.1

FS EPI

FA AB; GI

MC EPI: V04-T02

L85 ANSWER 10 OF 25 WPIX COPYRIGHT THE THOMSON CORP on STN  
 AN 2000-670958 [65] WPIX  
 DNN N2001-237073  
 TI Device transfer and absorption sensing device for a semiconductor device  
 tester - NoAbstract.  
 DC U11  
 IN LEE, G W  
 PA (NEXT-N) NEXT INSTR JH; (NEXT-N) NEXT INSTR CO LTD  
 CYC 1  
 PI KR 2000003129 A 20000115 (200065)\* H01L021-60  
 KR 271898 B 20001201 (200173) H01L021-60  
 ADT KR 2000003129 A KR 1998-24247 19980619; KR 271898 B KR 1998-24247 19980619  
 FDT KR 271898 B Previous Publ. KR 2000003129  
 PRAI KR 1998-24247 19980619  
 IC ICM H01L021-60  
 ICS H05K007-00  
 AB US 6219230 B UPAB: 20010625 ABEQ treated as Basic  
 NOVELTY - The portable computer (10) has lower housing (20) with  
**boss** having hole (22) in alignment with hole (42) of **PCB**  
 (40). The upper housing (50) accommodating input device, has hole (52)  
 while **display panel** (70) has hinge plate (72) with  
 hole. Cap (90) has another **boss** extending downward. Screw (110)  
 is inserted via bottom side of lower housing, passed through other holes  
 (42,52) and is screwed into cap **boss**.  
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for  
 portable computer assembling method.  
 USE - E.g. laptop, notebook computers, palmtop, personal digital  
 assistants.  
 ADVANTAGE - Assembly is simplified, as lesser number of fasteners are  
 used in assembling parts. Provides portable computer assembly that is  
 easier and quicker to put together.  
 DESCRIPTION OF DRAWING(S) - The figure shows the exploded perspective  
 view of portable computer.  
 Portable computer 10  
 Lower housing 20  
 Hole 22,42,52  
**PCB** 40  
 Upper housing 50  
**Display panel** 70  
 Hinge plate 72  
 Cap 90  
 Screw 110  
 AB KR2000003129 A UPAB: 20010628  
 NOVELTY - The portable computer (10) has lower housing (20) with  
**boss** having hole (22) in alignment with hole (42) of **PCB**  
 (40). The upper housing (50) accommodating input device, has hole (52)  
 while **display panel** (70) has hinge plate (72) with  
 hole. Cap (90) has another **boss** extending downward. Screw (110)  
 is inserted via bottom side of lower housing, passed through other holes  
 (42,52) and is screwed into cap **boss**.  
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for  
 portable computer assembling method.  
 USE - E.g. laptop, notebook computers, palmtop, personal digital  
 assistants.  
 ADVANTAGE - Assembly is simplified, as lesser number of fasteners are  
 used in assembling parts. Provides portable computer assembly that is

easier and quicker to put together.

DESCRIPTION OF DRAWING(S) - The figure shows the exploded perspective view of portable computer.

Portable computer 10

Lower housing 20

Hole 22,42,52

PCB 40

Upper housing 50

**Display panel** 70

Hinge plate 72

Cap 90

Screw 110